This article is a post-print version

**I “like” the way you look: How appearance-focused and overall Facebook use
contribute to adolescents’ self-sexualization**

Jolien Trekels¹, L. Monique Ward², and Steven Eggermont³

¹School for Mass Communication Research, KU Leuven, Belgium, Parkstraat 45, 3000

Leuven, Jolien.Trekels@kuleuven.be

²Psychology Department, University of Michigan, United States, 530 Church street, Ann

Arbor, MI 48109-1043, Ward@umich.edu

³School for Mass Communication Research, KU Leuven, Belgium, Parkstraat 45, 3000

Leuven, Steven.Eggermont@kuleuven.be

Please cite as follows:

Trekels, J., Ward, L.M., & Eggermont, S. (2018). I “like” the way you look: How appearance-focused and overall Facebook use contribute to adolescents’ self-sexualization. *Computers in Human Behavior*, 18, 198-208. Doi: [10.1016/j.chb.2017.12.020](https://doi.org/10.1016/j.chb.2017.12.020)

Author note

This research was funded by the KU Leuven Special Research Fund (BOF).

Correspondence concerning this article should be addressed to Jolien Trekels, School for Mass Communication Research, KU Leuven, Parkstraat 45, B-3000 Leuven, Belgium, Jolien.Trekels@kuleuven.be, Tel: +32 16 32 34 14 – Fax: +32 16 32 33 12.

Abstract

Prior research has related the use of social networking sites (SNSs) to body image disturbances among adolescents, but studies examining how SNSs affect adolescents' engagement in self-sexualizing behaviors are lacking. The current correlational study among 640 adolescents ($M_{age} = 16.27$, $SD = 1.60$) aimed to take a more nuanced look at the influence of SNS use, by examining the influence of talking about appearance-related topics with friends on Facebook in addition to total amount of Facebook use. The findings showed that appearance conversations on Facebook, but not total amount of Facebook use, was directly related to self-sexualizing behaviors. In addition, both self-objectification and the belief that complying with the prevailing appearance ideals is rewarded (with, for example, popularity, increased self-esteem, and romantic success) proved to be valid explanatory mechanisms for the examined relations. Results further showed that both boys and girls were affected by appearance-focused Facebook use, although girls scored higher on the key variables and the model fit better among the girls.

Keywords: Facebook use, appearance conversations, internalization, rewards, self-objectification, self-sexualization

I “like” the way you look: How appearance-focused and overall Facebook use contribute to adolescents’ self-sexualization

Social networking sites (SNSs) have become integrated into the lives of youth around the world, with 81% of adolescents (81%) reporting using them, especially Facebook, which remains the most popular (Madden, 2013). One of the unique features of SNSs is the display of primarily visual images (Perloff, 2014) and, therefore, the focus on physical appearance (Ringrose, 2011). A recent trend has been the posting of increasingly sexualized photographs. Kapidzic and Herring (2014) showed that 51.7% of teens’ profile pictures on a popular chat site displayed seductive behavior, and 20.4% featured revealing clothing. In light of these findings, SNSs may be considered a contributing factor to the (self-) sexualization of youth.

Although studies indeed document a link between SNS use and body dissatisfaction (e.g., Eckler, Kalyango, & Paasch, 2016; Stronge et al., 2015) and self-objectification (e.g., Manago, Ward, Lemm, Reed, & Seabrook, 2015), results are not always significant (e.g., Ferguson, Muñoz, Garza, & Galindo, 2014), and some questions remain about its role in self-sexualization. First, there have yet to be any studies linking SNS use to adolescents’ engagement in self-sexualizing behaviors. We believe that our study makes a significant contribution to the literature by focusing on these behaviors, and on SNSs. The unique features of SNSs enable appearance-related experiences, such as interpersonal surveillance and comparison with similar others, that differentiate SNS use from traditional media use (Perloff, 2014). Second, because SNS use, and Facebook use in particular, consists of many types of actions, it is possible that stronger connections to self-sexualization may emerge with appearance-related discussions versus overall amount of use. Therefore, we aimed to take a more nuanced look at the influence of SNS use by examining the influence of talking about appearance-related topics with friends on SNSs in addition to total amount of SNS use. Third, because evidence demonstrates that several factors mediate connections between media use

and self-sexualization (e.g., Vandenbosch & Eggermont, 2012), we explored the explanatory value of integrating insights from social cognitive theory within the objectification theory framework. Specifically, we investigated whether and how SNS use is related to adolescents' acceptance of appearance ideals as personal standards *because* they buy into the associated benefits, such as popularity and romantic success, and whether this internalization, in turn, may relate to their level of self-objectification. Lastly, we explored whether engagement in self-sexualizing behaviors (e.g., applying make-up or drinking muscle-enhancing beverages) could be considered a behavioral manifestation of adolescents' self-objectification.

Facebook use and appearance-focused behaviors

Adolescent girls experience considerable cultural pressure to take on a sexualized appearance (APA, 2007). Indeed, sexiness together with thinness and youthfulness (Ganahl, Prinsen, & Netzley, 2003; Markula, 2011) are part of the contemporary appearance ideal for women. Evidence also indicates that young men have become increasingly invested in their appearance, as well (e.g., Tiggemann, Martins, & Churchett, 2008), and are expected to have a muscular upper-body and low body fat (Leit, Pope, & Gray, 2002). Appearance ideals are often presented as something to strive for and are associated with positive outcomes, such as popularity and involvement in romantic relationships (Klein & Shiffman, 2006).

Exposure to such idealized images in traditional media has been related to appearance-focused behaviors such as dieting among adolescent girls (Field et al., 2001), adopting strategies to gain muscle tone among adolescent boys (McCabe & Ricciardelli, 2001), and risky appearance management such as using laxatives and receiving botox injections among college students (Lee & Johnson, 2009). With the proliferation of the internet and SNSs, scholars have started to examine the role of new media in pressuring youth to comply with narrowly defined appearance ideals (for review, see Holland & Tiggemann, 2016).

Specifically, SNSs are argued to provide certain affordances (i.e., “an interface feature

that facilitates a certain action”; Ellison & Vitak, 2015), which shape how users engage with that environment (boyd, 2011). For instance, SNSs allow users to construct a profile, connect with others, and view others’ shared content (Papacharizzi, 2011). These inherent features of SNSs lead individuals to strategically construct their profiles to be seen by others (Vogel, Rose, Roberts, & Eckles, 2014). For body image scholars, the asynchrony of SNSs seems to be especially important, because it allows time to compose and edit information (Walther et al., 2011), and thus offers users the opportunity to control their self-presentation (boyd, 2011). Additionally, the affordances of interactivity and searchability may foster interpersonal surveillance and social comparisons with similar others (Ho, Lee, & Liao, 2016). These unique features of SNSs, including Facebook, render them important sociocultural factors to consider in body image research.

Ringrose (2011), for example, showed that 14- to 16-year old girls worried about how they looked on SNSs. The pressure to conform to an appearance norm is high (de Vries, Peter, Nikken, & de Graaf, 2014), and users tend to post photos that comply with current beauty standards (Siibak, 2010) or “untag” photos that do not (Pempek, Yermolayeva, & Calvert, 2009). As such, SNSs appear to be saturated with idealized imagery. Moreover, it has been argued that the idealized images of peers may be more relevant than those of celebrities (Manago et al., 2015). A recent review of the literature concluded that the use of SNSs is related to body dissatisfaction and disordered eating (Holland & Tiggemann, 2016). In fact, in Vandenbosch and Eggermont’s (2012) study, SNS use but not traditional media use was related to body surveillance (i.e., the monitoring of one’s appearance). With regard to Facebook use in particular, Cohen and Blaszczynski (2015) showed that Facebook use was more strongly related to body dissatisfaction and eating disorders than use of conventional media. Facebook use has also been related to adolescents’ increased likelihood of trying to lose weight (Sampasa-Kanyinga, Chaput, & Hamilton, 2015) and their desire to undergo

cosmetic surgery, indirectly through appearance investment (de Vries et al., 2014).

Despite these findings, studies linking SNS use to adolescents' *actual* engagement in behaviors to look more sexy are, to our knowledge, lacking. Some related findings have emerged for traditional media exposure. Nowatzki and Morry (2009) found that women who viewed more sexually objectifying magazines and television programs were more likely to engage in sexualizing behaviors, such as taking part in a wet T-shirt contest. Although not incorporating media measures into their study, Smolak, Murnen, and Myers (2014) also argue that objectifying messages pressure girls and women to self-sexualize. Likewise, McKenney and Bigler (2014) found that girls who reported a higher internalization of the notion that sexual attractiveness to men is a woman's primary value spent more time on appearance-focused behaviors (i.e., applying make-up) in a laboratory task than on competence behaviors (i.e., rehearsing the script). These findings indicate that girls are vulnerable to the effects of exposure to sexualizing messages. We argue that adolescents may be exposed even more often to idealized and sexualized images through Facebook because of the affordances offered by SNSs, including the constant flow of information and the editability of content (Ho et al., 2016), and adolescents' overall investment in online appearances (Ringrose, 2011). Moreover, based on prior findings on the influence of Facebook use on appearance investment (e.g., de Vries et al., 2014), we hypothesize that:

H1: Total amount of Facebook use is positively related to adolescents' engagement in self-sexualizing behaviors.

In addition to the influence of media, scholars have examined the role of peers in the development of body image concerns (e.g., Jones, Vigfusdottir, & Lee, 2004). Much research exists on the appearance culture in which both media and peers jointly impose beauty ideals by creating an environment in which physical appearance is glorified and valued (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Appearance conversations with friends are argued

to be fueled by media content (Clark & Tiggemann, 2007) and to reinforce appearance ideals by adding personal relevance to them (Jones et al., 2004). In fact, studies have shown that such appearance conversations are related to self-objectification (e.g., Tiggemann & Slater, 2014) and eating disturbances (e.g., Shroff & Thompson, 2006).

With the advent of SNSs, the way adolescents interact has changed, and a large part of their communication with friends now takes place through these sites (Madden, 2013). Specifically, adolescents use online communication as a way to extend their offline interaction with peers (Subrahmanyam & Greenfield, 2016). Conversations about appearance-related topics may thus have shifted to the social network platform, as well. We argue that it is important to examine how appearance conversations on SNSs relate to adolescents' body image outcomes for three reasons. First, SNSs are designed to stimulate feedback by means of comments and likes (Koutamanis, Vossen, & Valkenburg, 2015). Second, because SNSs, such as Facebook and Instagram, mainly consists of visual images and thus focus on appearances, conversations about one's appearance are likely to occur (de Vries, Peter, de Graaf, & Nikken, 2016). Finally, specific activities on SNSs have been identified as particularly problematic (Holland & Tiggemann, 2016). For instance, Meier and Gray (2014) showed that appearance-related exposure on Facebook (i.e., activities involving photos), but not overall Facebook use, was positively correlated with internalization, self-objectification, and drive for thinness, and negatively correlated with weight satisfaction. In light of these findings, we hypothesize that:

H2: Engagement in appearance conversations on Facebook is positively related to adolescents' engagement in self-sexualizing behaviors.

Objectification theory

One of the most commonly accepted and validated frameworks to explain media's influence on body image is objectification theory (Dakanalis & Riva, 2013). The theory

contends that by living in a culture that sexually objectifies women and girls (i.e., by treating them as objects to be looked at and evaluated based solely on their appearance), women and girls gradually adopt an observer's perspective on their own physical self, labeled self-objectification, and come to value their appearance over other attributes such as personality or health (Fredrickson & Roberts, 1997). A great deal of research confirms that exposure to sexually objectifying media messages is related to self-objectification among adolescent girls (e.g., Grabe & Hyde, 2009; Vandenberg & Eggermont, 2012) and boys (e.g., Vandenberg & Eggermont, 2015). Furthermore, recent studies have related SNS use to self-objectification among girls and boys (e.g., Tiggemann & Slater, 2014; Vandenberg & Eggermont, 2012). This latter finding does not seem farfetched considering that sexually objectifying messages are also present on SNSs (Rodgers & Melioli, 2015). For instance, Rose et al. (2012) concluded that Facebook pictures are highly gender-stereotypical, with men presenting themselves more often as active, dominant, and independent, and women's most prominent features being attractiveness and dependence. Döring, Reif, and Poeschl (2016) concluded that selfies on Instagram were even more stereotypical than magazines ads, with young men's selfies focusing on muscles, and young women's selfies displaying subordination (e.g., through lying posture or withdrawing gaze), sexualization (e.g., by using the kissing pout), and objectification (by displaying only the body). Moreover, overall SNS use might also relate to self-objectification because crafting one's own online profile requires the evaluation of one's appearance and thus the viewing of oneself from an observer's perspective (Manago et al., 2015; Ruckel & Hill, 2016).

However, objectification theory, as initially spelled out, did not focus heavily on mechanisms to explain how media exposure negatively impacts individuals' self-image (Fredrickson & Roberts, 1997). Scholars applying the theory have tried to work out those mechanisms, and our study aims to add to this literature. Specifically, Moradi and Huang

(2008) argued that self-objectification should be considered as a multidimensional process involving three components (i.e., internalization, self-objectification, and body surveillance). We will follow and add to this conceptualization of self-objectification in two ways. First, we take into account the rewarding context in which appearance ideals are encountered on SNSs (through likes and comments) by examining the extent to which individuals internalize the rewards associated with having an ideal appearance. Second, we will consider engagement in self-sexualizing behaviors, rather than body surveillance, as a behavioral manifestation of self-objectification. The hypothesized relations are summarized in Figure 1.

[FIGURE 1 ABOUT HERE]

The internalization of rewarded appearance ideals as a first mediator

According to Moradi and Huang's (2008) more comprehensive understanding of self-objectification, the process of self-objectification commences with the internalization of appearance ideals. Internalization refers to the extent to which an individual accepts the narrowly defined appearance ideals as standards for his or her own appearance (Thompson & Stice, 2001). It is argued that after being frequently exposed to sexually objectifying media, in which sexual attractiveness is defined according to narrow appearance standards, viewers may accept those standards as personal goals.

A unique feature of SNSs is the possibility to exert public validation of the body ideal through likes and comments on users' profile (Flynn, 2016). In fact, data indicate that attractive peers are more popular on SNSs (Vandenbosch & Eggermont, 2015), and girls consider being attractive on SNSs to be important for being liked by peers (Baily, Steeves, Burkell, & Regan, 2013). The current study aims to incorporate the rewarding context in which idealized images are encountered on Facebook.

Specifically, according to social cognitive theory (Bandura, 2001), observing how attractive others are rewarded for complying with the prevailing appearance ideals might

trigger a modeling process. Importantly, imitation of the behavior is more likely to occur when the modeled behavior is followed by outcomes that are valued by the individual (Holmstrom, 2004). Accordingly, we argue that girls and boys might learn, through the verbal and visual endorsement of idealized images on Facebook, to internalize those ideals as personal standards, because of the rewards associated with fitting the ideal mold. In doing so, we follow Engeln-Maddox's (2006) suggestion that women do not internalize appearance ideals because they are *ideals* but rather because they pursue the rewards associated with the ideal. Moreover, Thompson and Stice (2001) theorized that peers' and media's reinforcement of appearance ideals perpetuates these ideals by creating certain expectations about the benefits of fitting the ideal. Because peers play an especially important role in endorsing the ideal, we argue that appearance conversations with friends, and not so much total Facebook use, would relate to the internalization of appearance ideals because of the perceived rewards:

H3: The engagement in appearance conversations among friends on Facebook is positively related to the internalization of rewarded appearance ideals.

Once appearance ideals are internalized, appearance-related attributes of the body are valued more highly than other attributes of the body (e.g., health), which is conceptualized as self-objectification (Vandenbosch & Eggermont, 2012). By implementing the tenets of social cognitive theory within the objectification framework, we aim to better understand how adolescents come to overvalue their appearance. We reason that adolescents may learn that an ideal appearance is something to strive for because it brings about positive life outcomes. Once they buy into the idea of rewarded beauty, they are – because of their pursuit of those rewards – inclined to consider their appearance most important. We hypothesize that:

H4: The internalization of rewarded appearance ideals is positively related to self-objectification.

According to the report of the APA Task Force (2007), girls know exactly how social

processes work and have learned what they would gain from following the sexualization norms for girls and what negative consequences will follow if they decide not to. Therefore, if they believe that sexualized behaviors are approved by those whose opinion matters most to them (e.g., peers), “they are likely to internalize these standards, thus engaging in self-sexualization” (p. 2). We therefore expect that internalization of rewarded appearance ideals is not only indirectly – through self-objectification – but also directly related to self-sexualization. We hypothesize that:

H5: The internalization of rewarded appearance ideals is positively related to adolescents’ engagement in self-sexualizing behaviors.

Self-sexualization as a behavioral manifestation of self-objectification

Taking on an objectified view of the self, in turn, has been shown to lead women to constantly monitor their body to make sure it is in line with the prevailing beauty standards (i.e., body surveillance; Moradi & Huang, 2008). For instance, self-objectification has been related to women’s engagement in appearance-modification behaviors, including dieting (Moradi & Huang, 2008) and considering cosmetic surgery (Jackson & Chen, 2015). Among men, self-objectification has been related to muscle dysmorphia (Grieve & Helmick, 2008). Prior studies also indicate that self-objectifying girls (Vandenbosch & Eggermont, 2012) and boys (Vandenbosch & Eggermont, 2015) invest more time in monitoring their body. The current study adds to this line of research by considering engagement in self-sexualizing behaviors as a behavioral manifestation of self-objectification. One study (Smolak et al., 2014) showed that engagement in self-sexualizing behaviors and self-objectification correlated highly among adult women and men. Liss, Erchull, and Ramsey (2011) also showed that their measure of enjoyment of sexualization correlated highly with self-objectification among adult women. It can be argued that individuals who view themselves as a sexual object for others’ use are inclined to perform objectifying behaviors because they

believe sexual attractiveness is their primary value. Ruckel and Hill (2016) recently showed, for example, that self-objectification (measured as body surveillance) was related to young women's self-sexualization on profile pictures on SNSs. Therefore, we expect that exposure to sexualizing messages on Facebook relates to self-objectification which, in turn, increases adolescents' engagement in self-sexualizing behaviors. The sixth hypothesis is:

H6: Internalization and self-objectification act as serial mediators in the relation between total amount of Facebook use and adolescents' engagement in self-sexualizing behaviors.

Engaging in (offline) appearance conversations among friends has been related to self-objectification, as well. Tiggemann and Slater (2014) showed that (offline) appearance conversations among friends, in addition to magazine and internet exposure, were positively related to self-objectification among a sample of 10- to 13-year old girls. Slater and Tiggemann (2015) further showed that, among adolescents, receiving (offline) appearance-related comments related positively with self-objectification. As far as we know, there are no studies that examine how the intertwining of media and peers (i.e., conversations with friends on Facebook) relates to body image outcomes. Based on prior findings that relate appearance conversations to self-objectification (e.g., Tiggemann & Slater, 2014) and studies that find more support for the influence of specific appearance-related activities on Facebook than overall Facebook use (e.g., Meier & Gray, 2014), we hypothesize the following:

H7: Internalization and self-objectification act as serial mediators in the relation between engagement in appearance conversations on Facebook and adolescents' engagement in self-sexualizing behaviors.

Considering the role of gender in the examined relations

Girls have been shown to be more concerned with their appearance, more aware of appearance ideals, and are confronted more often with appearance-related messages than

boys (e.g., Phares, Steinberg, & Thompspon, 2004). Moreover, research indicates that women might place more importance on their online appearance than men. For example, Manago, Graham, Greenfield, and Salimkhan (2008) showed that women prioritize physical attractiveness in their Facebook photos, whereas men's photos emphasize strength and power. Additionally, women report using social networking sites for self-presentation and interpersonal gratifications, and tend to compare themselves with others more frequently than men (Haferkamp, Eimler, Papadakis, & Kruck, 2012). Therefore, we expected that the hypothesized model (Figure 1) would fit better among the girls, but that both girls and boys would be susceptible to the influence of (appearance-focused) Facebook use.

Method

Participants and Procedure

Participants were 640 adolescents between the ages of 12 and 18 years (312 boys and 328 girls; $M_{\text{age}} = 16.27$ years; $SD = 1.60$). They were recruited from 19 schools from different parts of Belgium that agreed to participate in the study. Active consent was obtained from both the parents and the participants after they were informed about study aims, procedures, and confidentiality measures. Participants filled out a paper-and-pencil questionnaire in class during class hours. Two research assistants were present at all times to ensure optimal circumstances. No incentives were provided as is customary in Belgium. The majority of participants (94.5%) were born in Belgium. Seventy-seven percent of the adolescents (77.6%) reported that their parents were married, and 19.4% lived with divorced parents.

Measures

Demographics. Participants were asked about their gender (with 1=*boy* and 2=*girl*) and age. They also estimated their weight and height. The mean BMI was 20.13 kg/m² ($SD=3.02$).

Time spent on Facebook. Total amount of Facebook use was measured by having respondents estimate how much time they spend on Facebook on a regular weekday (i.e.,

Monday to Thursday), and weekend days (Saturday and Sunday), on a 11-point Likert scale (i.e., *0h* (=0); *0.5 h* (=1); *0.5–1h* (=2); *1–1.5 h* (=3); *1.5– 2h* (=4); *2–2.5 h* (=5); *2.5–3h* (=6); *3–4h* (=7); *4–5h* (=8); *More than 5 h* (=9) and *I am always logged into Facebook (i.e., I'm constantly 'online' and available for interaction)* (=10). Moreover, in line with Frison, Kaveri, and Eggermont (2016), separate estimates were given for Wednesdays and Fridays. As participants have a half-day at school on Wednesday, and Friday marks the start of the weekend, they may have more time to spend on Facebook. A composite score of the daily time on Facebook was obtained by averaging the time spent on a typical weekday, weekend day, Wednesdays, and Fridays.

Appearance conversations on Facebook. The questionnaire included an adapted version of the Appearance Conversations subscale of the Appearance Culture among Peers Scale (Jones, et al., 2004), which has shown good validity and reliability among adolescents (e.g., Clark & Tiggemann, 2006). This scale measured how often adolescents engage in conversations about appearance-related topics on Facebook (publicly as well as in private messages). Respondents indicated, on a 5-point scale ranging from *Never* (=1) to *Very often* (=5), how often they talked with their friends on Facebook about the shape and size of their body, how important it is to look attractive, how their bodies look in their clothes, what they want their bodies to look like, and what they can do to look more attractive. The scale showed good reliability ($\alpha = .91$, $\alpha_{boys} = .91$ and $\alpha_{girls} = .90$). This variable used scale measurements, which were used as latent variable indicators in the SEM model.

Self-sexualizing behaviors. To assess adolescents' engagement in self-sexualizing behaviors, we asked them to indicate how often they performed each of several behaviors on a scale ranging from *Never* (=1) to *Always* (=5). These behaviors were chosen based on prior research by Smolak et al. (2014), and on literature on the sexualization of youth (e.g., APA, 2007; Zurbriggen & Roberts, 2013), and were adapted to fit the age of our respondents. For

boys, these behaviors included: wearing tight clothes, wearing low-cut shirts that expose the chest, enjoying walking around in an undressed upper-body, wearing pants so that underwear is visible, exercising to get a good physique, drinking beverages to gain muscle, styling their hair, wearing cologne, watching their weight, and taking sexy pictures of themselves. A principal component analysis yielded one factor (*eigenvalue*: 3.46; *explained variance*: 38.49 %; $\alpha = .78$). Subsequently, the items were summed up and divided by ten. For girls, we asked how often they style their hair, dye their hair, apply make-up, wear heels, wear tight clothes, wear short skirts/shorts, exercise to get a good physique, wear perfume, watch their weight, and take sexy pictures of themselves. A principal component analysis yielded one factor (*eigenvalue*: 2.81; *explained variance*: 28.12 %; $\alpha = .68$). Subsequently, the items were summed up and divided by ten.

The internalization of rewarded appearance ideals. To examine whether adolescents internalize appearance ideals because they believe an ideal appearance is associated with rewards or benefits, we created a new scale based on an item of the Internalization subscale of the Sociocultural Attitudes towards Appearance Scale (Thompson, Van den Berg, Roehrig, Guarda, & Heinberg, 2004). Specifically, respondents used a 5-point scale ranging from *I totally disagree* (=1) to *I totally agree* (=5) to rate whether they would like their body to look like the people who appear in magazines and on television because it would boost their self-confidence, because they would be more popular with friends, because they would get a girl/boyfriend more easily, because they would be more happy, and because they would feel better about themselves. The scale showed good reliability across these five items (overall $\alpha = .88$, $\alpha_{boys} = .90$ and $\alpha_{girls} = .87$). This variable used scale measurements, which were used as latent variable indicators in the SEM model.

Self-objectification. Self-objectification was measured by using an adapted version of Noll and Fredrickson's original Self-Objectification Questionnaire (1998) (Vandenbosch &

Eggermont, 2012). The respondents evaluated the importance of 18 body attributes on a 10-point scale ranging from *Not at all important* (= 1) to *Very important* (= 10). A principal component analysis (direct oblimin) was conducted separately for boys and girls on the index measurements in order to extract one body appearance-based factor and one body competence-based factor. In a next step, the competence-based factor was subtracted from the appearance-based factor. For girls, the appearance factor included physical attractiveness (factor loading = .82), coloring (.61), weight (.54), sex appeal (.79), buttocks (.90), chest (.89), belly (.79), hips (.74), and measurements (.60) (*eigenvalue*: 6.43; *explained variance*: 35.73%, $\alpha = .90$). The competence factor included physical coordination (factor loading = .47), stamina (.67), health (.77), physical energy level (.68), muscular strength (.51), muscle tone (.41), healthy food (.74), and a well-cared-for body (.65) (*eigenvalue*: 2.48; *explained variance*: 13.80%; $\alpha = .75$). The item 'clean body' loaded on the appearance factor and had a low factor loading ($< .5$) and was omitted from the analysis.

For boys, the appearance factor included chest (factor loading = .82), belly (.80), muscularity (.78), sex appeal (.78), coloring (.76), physical attractiveness (.75), muscle tone (.68), buttocks (.68), hips (.62), weight (.60), and measurements (.52) (*eigenvalue* = 7.37; *explained variance*: 40.93%, $\alpha = .90$). The competence factor included health (factor loading = .89), a well-cared for body (.69), stamina (.69), healthy food (.64), and physical energy level (.42) (*eigenvalue*: 1.69; *explained variance*: 9.41%; $\alpha = .74$). Among the boys, the items 'clean body' and 'physical coordination' loaded on the appearance factor but had a low factor loading ($< .5$) and were therefore omitted from the analysis. Next, mean scores on the appearance-based attributes and the competence-based attributes were calculated. The difference between the mean scores reflects self-objectification (range from -9 to 9); higher scores indicate greater valuing of appearance over competence.

Results

Descriptive statistics

Table 1 presents the zero-order inter-correlations and descriptive statistics for both the entire sample, and separately for boys and girls. Gender differences were explored by performing a MANCOVA analysis (using Pillai's Trace and controlling for age and BMI). This analysis revealed that there were significant differences between boys and girls, $F(5, 485) = 10.48, p < .001, \eta p^2 = .10$. Specifically, girls scored higher on all variables; girls used Facebook more often, $F(1, 489) = 9.85, p = .002, \eta p^2 = .02$, discussed appearance-related topics on Facebook more often, $F(1, 489) = 30.76, p < .001, \eta p^2 = .06$, internalized rewarded appearance ideals more strongly, $F(1, 489) = 15.85, p < .001, \eta p^2 = .03$, self-objectified more, $F(1, 489) = 31.84, p < .001, \eta p^2 = .06$, and engaged in self-sexualizing behaviors more frequently, $F(1, 489) = 14.77, p < .001, \eta p^2 = .03$, than boys.

[TABLE 1 ABOUT HERE]

Testing the hypothesized model

The integrative model was tested with structural equation modeling (AMOS) using the maximum likelihood method. The chi-square-to-degrees-of-freedom ratio (χ^2/df), the root mean square error of approximation (RMSEA), and the comparative fit index (CFI) were used to address the fit of the model. The model controlled for the baseline values of age, BMI, and gender by employing these variables as predictors for all of the hypothesized endogenous variables. After calculating skewness values, the following distributions were shown to exceed the expected range: appearance conversations (boys: 15.84; girls: 7.09), internalization of rewarded appearance ideals (boys: 3.14), self-sexualization (boys: 4.27), and overall Facebook use (boys: 7.24; girls: 4.98). To resolve this issue, we decided to perform bootstrapping in AMOS, which has proven to be an adequate way to deal with non-normal data in structural equation modeling (Nevitt & Hancock, 2001). First, multiple

imputation was performed as the bootstrapping method does not allow the sample to include missing data.¹ One hundred and forty-six respondents (13.9%) had missing data. Eighty-nine of those respondents had only one missing value that had to be imputed. All variables had less than 10% missing data.

The hypothesized model showed an adequate fit of the data (Figure 2). The model yielded a chi-square value of 241.83 with 80 degrees of freedom, $p < .001$, RMSEA=.05, CFI=.96; $\chi^2/df=3.02$. The results indicated that 21.4% of the variance of internalization of rewarded appearance ideals could be explained by total amount of Facebook use and appearance conversations on Facebook; 25.4% of the variance of self-objectification could be explained by total amount of Facebook use, appearance conversations on Facebook, and internalization of rewarded appearance ideals, and 28.4% of the variance in self-sexualizing behaviors could be explained by overall Facebook use, appearance conversations on Facebook, internalization of rewarded appearance ideals, and self-objectification.

[FIGURE 2 ABOUT HERE]

Total amount of Facebook use was significantly related to self-objectification, $\beta=.18$, $SE=.03$, $CI\ 95\% [.11, .26]$, $p=.002$, but not to the internalization of rewarded appearance ideals, $\beta=-.02$, $SE=.04$, $CI\ 95\% [-.10, .05]$, $p=.560$, nor to engagement with self-sexualizing behaviors, $\beta=.02$, $SE=.04$, $CI\ 95\% [-.05, .09]$, $p=.618$. Hypothesis 1 assumed a direct association between overall Facebook use and self-sexualizing behaviors, but was not supported. Appearance conversations on Facebook were, however, significantly related to the internalization of rewarded appearance ideals, $\beta=.35$, $SE=.04$, $CI\ 95\% [.27, .43]$, $p=.002$, self-

¹ In multiple imputation, each missing value is replaced by a simulated value and m plausible alternative versions of the complete dataset are generated. In our study, five new datasets were generated and we tested our hypothesized model with each dataset. These analyses did not significantly differ and the model that is reported in the manuscript was analyzed with the fifth dataset that was obtained from the MI method.

objectification, $\beta=.16$, $SE=.04$, $CI\ 95\% [.08, .24]$, $p=.002$, and engagement with self-sexualizing behaviors, $\beta=.30$, $SE=.04$, $CI\ 95\% [.22, .38]$, $p=.002$. These results thereby provide support for Hypothesis 2 (i.e., appearance conversations on Facebook are directly related to self-sexualizing behaviors) and Hypothesis 3 (i.e., appearance conversations on Facebook are directly related to internalization). The internalization of rewarded appearance ideals was also significantly related to self-objectification, $\beta=.23$, $SE=.04$, $CI\ 95\% [.15, .31]$, $p=.002$, which further provides support for hypothesis 4. The internalization of rewarded appearance ideals was not significantly related to self-sexualizing behaviors, $\beta=.08$, $SE=.04$, $CI\ 95\% [-.01, .15]$, $p=.068$, which does not support hypothesis 5. Self-objectification and self-sexualizing behaviors were significantly related, $\beta=.25$, $SE=.04$, $CI\ 95\% [.17, .32]$, $p=.002$.

Effect sizes for indirect paths were obtained by coding user-defined estimands. Such estimands provide estimates, confidence intervals, and significance values for specific indirect effects through bootstrapping (Amos Development Corporation, 2010). These results showed that the indirect relation between total amount of Facebook use and self-sexualizing behaviors through both mediators was insignificant, $\beta=.000$, $SE=.001$, $CI\ 95\% [-.002, .001]$, $p = .517$. As such, the results do not provide support for Hypothesis 6. The indirect relation from appearance conversations on Facebook to self-sexualizing behaviors through internalization and self-objectification was significant, $\beta=.019$, $SE=.005$, $CI\ 95\% [.010, .032]$, $p=.001$. Hypothesis 7 was thereby supported by our data.

Gender differences. To examine whether gender moderated the hypothesized model, a multiple group analysis was performed. We first confirmed that there was measurement invariance; the groups could therefore be compared. Subsequently, we examined whether the hypothesized model was moderated by gender through a multi-group analysis. Results showed that the unconstrained model (i.e., model where the parameters vary between the groups) did significantly differ from the constrained model (i.e., model where the parameters

are constrained to be equal), indicating that the processes differed for boys and girls, $\Delta\chi^2=72.66$, $\Delta df=23$, $p < .001$. A path-by-path analysis revealed that total amount of Facebook use was more strongly related to self-objectification among girls, $\beta=.26$, $SE=.04$, $p < .001$, than boys, $\beta=.13$, $SE=.03$, $p < .01$. There were no other significant gender differences. However, the model did explain more variance of self-sexualization among girls ($R^2=.25$ for boys, $R^2=.32$ for girls). This difference confirms our expectations.

Discussion

The current study aimed to increase scholarly knowledge on the link between Facebook use and adolescents' engagement in self-sexualizing behaviors. The findings indicate the importance of specific (appearance-related) activities on Facebook, rather than overall Facebook use, in youth's self-sexualization. Additionally, the theoretical contribution of the current study lies in showing the value of combining insights from objectification theory with social cognitive theory. In all, this study provides important new insights for the literature.

Appearance-focused activities on Facebook

Our findings showed that having conversations on Facebook about appearance-related topics, but not total amount of Facebook use, was directly related to adolescents' engagement in self-sexualizing behaviors, even when the internalization of rewarded appearance ideals and self-objectification were taken into account. Given the increasing importance of peers in the lives of adolescents (Steinberg & Morris, 2001), it is not surprising that conversations with friends influence what adolescents consider important and normative behavior. Prior studies showed that offline appearance conversations related significantly to adolescents' body dissatisfaction (Lawler & Nixon, 2011), self-objectification (Tiggemann & Slater, 2014), and appearance-based rejection sensitivity (Webb, Zimmer-Gembeck, & Donovan, 2014). SNSs, and Facebook as an appearance-focused website (Perloff, 2014), may foster conversations about appearance-related topics. In particular, users may view comments on

their self-posted picture or they can observe how others are applauded for their sexualized profile pictures. Our findings show that such conversations may serve to increase the personal relevance of appearance ideals in the media (Jones et al., 2004), which motivates adolescents to engage in behaviors to appear more sexy, themselves. Combining our study findings with existing findings (e.g., Lee & Johnson, 2009; Slater & Tiggemann, 2014) suggests that appearance conversations, whether they occur online or offline, appear to affect young people's sexualization.

An interesting and unexpected finding of the current study was that the frequency with which adolescents used Facebook was unrelated to their engagement in behaviors designed to appear more sexy. So, despite the increasing prevalence of sexualization on social media (e.g., Kapidzic & Herring, 2014), merely seeing how others sexualize themselves is not enough for girls and boys to start engaging in (offline) self-sexualizing behaviors themselves. It could be that only when they begin to understand that their friends highly value appearance, through conversations about appearance topics, that youth may more frequently engage in such behaviors. One of the current study's strengths was the inclusion of both media and peer variables into one model. Our results are in line with a recent study by Trekels and Eggermont (in press) who found that discussions of media content with peers, rather than personal exposure to teen television, increased early adolescents' perceived attainability of appearance ideals, which, in turn, related to engagement in self-sexualizing behaviors. Such findings indicate that adolescents highly value the opinion of their peers. Research on friendship cliques (e.g., Hutchinson & Rapee, 2007; Paxton, Schutz, Wertheim, & Muir, 1999; Shroff & Thompson, 2006) and the appearance culture (e.g., Jones et al., 2004) have repeatedly shown that adolescents in the same social group endorse body image attitudes and concerns to a similar extent. Our study adds that adolescents might learn that their friends endorse sexualizing appearance ideals through conversations on Facebook

(either private or public), and that this particular event might explain why they are inclined to personally invest in their appearance. We therefore argue for the importance of including peer factors in research examining the influence of media exposure on self-sexualization.

Objectification framework as explanatory mechanism

Our findings further showed that appearance conversations with friends on Facebook were significantly related to adolescents' self-objectification. Prior research associated offline appearance conversations among friends with self-objectification (e.g., Slater & Tiggemann, 2015; Tiggemann & Slater, 2014). Our study adds that such conversations may also take place within the Facebook platform and may affect adolescents accordingly. In addition, our findings show that merely being logged onto Facebook (i.e., overall Facebook use) is related to adolescents' likelihood of valuing the attractiveness of their body over their body's competence. The high prevalence of sexualizing and gender stereotypical images on SNSs (e.g., Rodgers & Melioli, 2015; Rose et al., 2012) puts adolescents at risk of encountering objectifying content on their newsfeed. In addition, prior research showed that adolescents who indicated frequently observing sexually objectifying content on SNSs were also more likely to self-objectify (Vandenbosch & Eggermont, 2012). The latter finding is, however, in contrast to prior research showing that engagement in appearance-focused SNS use (i.e., the posting of photos) but not overall SNS use relates to body image disturbances (Meier & Gray, 2014). In their review of the literature, Holland and Tiggemann (2016) also found several studies showing that maladaptive Facebook use (i.e., seeking negative evaluations) related to body image concerns (Hummel & Smith, 2015; Smith, Hames, & Joiner, 2013). Because we asked adolescents to indicate only how many hours they spend being logged onto the website, we are unaware of the content they encounter on Facebook. However, considering that observing others (i.e., checking out other users' profiles, reading their newsfeed, or looking at photographs) is the most common activity on SNSs (Pempek et al., 2009), and considering

the prevalence of sexualizing photographs on SNSs (Kapidzic & Herring, 2014), it is no surprise that overall amount of Facebook use is also related to youth's overvaluation of their appearance.

Self-objectification, in turn, related positively with adolescents' engagement in behaviors to appear more sexy. This finding supports the premises of objectification theory (Fredrickson & Roberts, 1997; Moradi & Huang, 2008), which contend that women who self-objectify view themselves as sexual objects for the pleasures of others and are more inclined to modify their bodies to achieve a certain appearance (Smolak et al., 2014). In fact, the findings are in line with studies relating self-objectification with self-sexualizing behaviors among young adult women (Liss et al., 2011; Ruckel & Hill, 2016; Smolak et al., 2014). Our findings extend such an account to younger people. Specifically, it appears that self-objectifying adolescents contribute to their own sexualization by engaging in behaviors designed to emphasize their sexiness in many of the ways employed by adults.

Paying attention to rewards for attractiveness

Another aim of the current study was to integrate objectification theory and insights from social cognitive theory and to explore the role of the internalization of rewarded appearance ideals in the examined relations. It was found that talking with friends about appearance-related topics on Facebook, but not total amount of Facebook use, related to adolescents' belief that emulating the ideal appearance of media figures would lead to various positive things, such as popularity and romantic success. In addition, adolescents who internalized rewarded appearance ideals were more likely to self-objectify. Prior studies have confirmed the intermediary role of the internalization of appearance ideals in the relation between sociocultural factors and self-objectification (Vandenbosch & Eggermont, 2012). We argued, however, that adolescents internalize such ideals *because* of the associated benefits. Our findings confirmed this theoretical reasoning and showed that internalization of rewarded

ideals (partially) mediated the relation between appearance conversations on Facebook and self-objectification. As such, our study is among the first to follow Thompson and Stice's (2001) original theorizing of the internalization of appearance ideals as a potent risk factor for body image disturbances. Specifically, they argued that sociocultural factors (i.e., media and peers) create expectations about the benefits of complying with the ideal. It is these expectations that play "a key role in the propagation of this ideal" (p. 181). Our study tests this reasoning and confirms that taking into account the rewards for complying with the prevailing appearance ideals can increase understanding of why adolescents endorse (unrealistic) ideals as personal standards.

Our study shows that the belief that complying with appearance ideals is beneficial was not directly related to self-sexualization, but was only indirectly related, through self-objectification. It was expected, however, that people acquire behavioral scripts and normative beliefs by observing how role models are rewarded for certain behavior (Bandura, 2001). In fact, if the outcomes that follow the modeled behavior are valued by the individual, he/she is inclined to conduct the behavior. However, the current finding is important because it indicates that the belief that complying with narrowly defined appearance ideals is rewarded only encourages engagement in self-sexualizing behaviors when it co-occurs with an objectified self-view and thus when adolescents value appearance highly enough. McKenney and Bigler (2016) also found that girls who considered sexual attractiveness as part of their identity (i.e., internalized sexualization) were more inclined to wear sexualizing clothing. It thus appears that adolescents who consider the importance of a sexualized appearance as part of who they are, are more inclined to engage in behaviors to appear more sexy. Our study adds to this literature the notion that the perception of rewarded beauty could stimulate the endorsement of an objectified self-view.

Gender similarities

Our findings confirmed that both girls and boys are susceptible to the influence of Facebook use. In particular, appearance conversations with friends influenced both girls' and boys' internalization of rewarded appearance ideals, self-objectification, and engagement in self-sexualizing behaviors. Although the literature has mainly focused on women's (self-) sexualization, the current study aimed to explore how often boys engaged in appearance-focused behaviors, as well. The sexual appeal of men has become a central feature in contemporary traditional media (e.g., Leit et al., 2002; Ward et al., 2015) and social media, with men increasingly focusing on their own sexual appeal in the selfies they post online (Döring et al., 2016). Such findings confirm earlier reports of boys' being motivated to alter their bodies in order to approach the ideal (e.g., McCabe & Ricciardelli, 2001) and men's enjoying sexualization just as much as women do (Visser, Sultani, Choma, & , 2014; Ward et al., 2015). Additionally, this study's findings corroborate earlier body image research indicating that there are no differences between women and men in how social media relate to body image outcomes, such as enjoyment of being perceived as a sex object and body surveillance (e.g., Manago et al., 2014; Vandenbosch & Eggermont, 2012). Our study thereby supports other researchers who argue that the sexualization of boys is increasing and harmful (Vandenbosch & Eggermont, 2015).

The behaviors and outcomes reported here have consequences for adolescents' lives. Importantly, engagement in self-sexualizing behaviors has been shown to negatively affect adolescents' development (Zurbriggen & Roberts, 2013). Girls who wear sexualized clothing have, for example, been rated more negatively by others (Graff, Murnen, & Smolak, 2012). Studies examining the negative effects of boys' self-sexualization are necessary. The masculine gender stereotype expects boys not to care about their appearance (e.g., Giaccardi, Ward, Seabrook, Manago, & Lippman, 2016), while simultaneously boys are taught that they

will benefit from taking on a sexualized appearance (Kirsch & Murnen, 2015). Research examining how self-sexualizing boys are perceived by others remains warranted considering the conflicting expectations about boys and their (investment in) appearance.

Girls in our study did, however, score higher on all variables, and the relation between total amount of Facebook use and self-objectification was stronger among girls. This finding resonates with the stronger cultural emphasis on appearance for girls and women in society (Jung & Lennon, 2003). Furthermore, girls and women have been shown to more frequently post sexualized photos of themselves online (Kapidzic & Herring, 2014), which increases girls' exposure to the idealized appearance norms for women, especially because girls have been shown to spend more time on Facebook than boys (e.g., Frison & Eggermont, 2015).

Limitations and future directions

Some limitations should be taken into account when interpreting the current study's findings. First, the correlational design precludes us from making any causal inferences. Future experiments or longitudinal studies are necessary to examine the temporal order of the relations proposed in the current study. Furthermore, the model that is proposed and tested in the current study should be cross-validated with other (correlational) datasets in order to understand the reliability and validity of the current findings and to ascertain that these findings do not represent spurious associations. Second, the current study relied on self-report measures, which might have introduced some bias. Adolescents might have had difficulty estimating how many hours they spend on Facebook or how often they engaged in self-sexualizing behaviors. Nevertheless, as opposed to other analyses formats (e.g., regression analysis), structural equation modeling is able to better account for measurement bias by using latent variables. In addition, self-report data are sensitive to common method bias. We followed two guidelines provided by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) in order to reduce common method bias. Specifically, participants were told that there were two

separate questionnaires for two different studies (one on youth's well-being and one on youth's media use) in order to create a "psychological separation" between the measurement of the predictor and criterion variable (p. 287). Additionally, participants were guaranteed anonymity to reduce their sense of evaluation and thus social desirability answers. However, it should be acknowledged that despite these procedures, we are not able to preclude common method bias from influencing our results to some extent.

Third, future studies might benefit from including other appearance-related activities on SNSs. Prior studies showed, for example, that exposure to objectifying content (Vandenbosch & Eggermont, 2012) and actively seeking out negative evaluations on SNSs (Hummel & Smith, 2015; Smith et al., 2013) negatively affected users. Moreover, we did not differentiate between private and public Facebook conversations in our measure of appearance conversations. Nevertheless, public conversations that evolve around appearances are unique to SNSs such as Facebook. Private conversations are, however, independent of the SNSs and mirror any other computer mediated text relay program. Therefore, studies differentiating between both private and public conversations may better ascertain whether the unique features of Facebook render it an important factor in youth's sexualization or whether it is computer-mediated communication, in general, that warrants attention. Another interesting avenue for future studies would be to examine how SNSs' unique feature of highly visible reinforcement of ideal appearances, by means of likes and positive comments, relates to adolescents' internalization of rewarded appearance ideals. Pinpointing which aspects of SNS use teach adolescents that they would benefit from fitting the ideal mold would help scholars design more effective intervention campaigns.

Conclusion

The insights of the current study could be of considerable value to health practitioners, educators, and parents as they point out that participation in online appearance conversations

increases adolescents' engagement in self-sexualizing behaviors, through self-objectification and their belief that complying with appearance ideals is rewarded. For example, intervention campaigns might benefit from counteracting the message that appearance is more important than other aspects of a person or that looking attractive is the only way to be happy or popular. For instance, Kroon Van Diest and Perez (2013) showed the effectiveness of cognitive dissonance eating disorder prevention programs in which young women were instructed to speak and act against the thin ideal. It is believed that those who endorsed the thin ideal experienced discomfort and were motivated to resolve this state of cognitive dissonance by altering their attitudes towards the thin ideal, which, ultimately, decreases eating disorder symptoms. We argue that the same strategy could be applied to counteract the idea of rewarded appearance ideals and self-objectification to reduce adolescents' tendency to engage in behaviors to appear sexier.

The present study also calls for more research on the ways in which adolescents use SNSs in order to better understand their impact. By examining the extent to which adolescents engage in appearance-focused conversations with friends, we believe that researchers are able to discern those aspects of SNS use (i.e., focus on visual images and strong peer presence; Perloff, 2014) that make it an important factor to consider in body image literature. We also advocate for the inclusion of rewards for attractiveness in body image literature to increase understanding of why adolescents consider unrealistic and sexualizing appearance ideals as personal standards and are willing to take on a sexualized appearance themselves.

References

- American Psychological Association. (2007). *Report of the APA Task Force on the sexualization of girls*. Washington DC: American Psychological Association.
- Amos Development Corporation (2010) User-defined estimand: Multiple estimands. Retrieved from <http://www.amosdevelopment.com/video/user-defined-estimands/multiple-estimands/amos20/multiple-estimands-amos20.html>
- Baily, J., Steeves, V., Burkell, J., & Regan, P. (2013). Negotiating with gender stereotypes on social networking sites: From “bicycle face” to Facebook. *Journal of Communication Inquiry*, 37, 91-112. doi: 10.1177/0196859912473777
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26. doi: 10.1146/annurev.psych.52.1.1
- boyd, D. (2011). Social network sites as networked publics: Affordances, dynamics, and implications. In Z. Papacharissi (Ed.), *A networked self: Identity, community and culture on social network sites* (pp. 39-58). New York: Routledge.
- Clark, L., & Tiggemann, M. (2006). Appearance culture in nine- To 12-year-old girls: Media and peer influences on body dissatisfaction. *Social Development*, 15, 628–643. doi: 10.1111/j.1467-9507.2006.00361.x
- Clark, L., & Tiggemann, M. (2007). Sociocultural influences and body image in 9 to 12-year-old girls: The role of appearance schemas. *Journal of Clinical Child & Adolescent Psychology*, 36, 76-86. doi: 10.1080/15374410709336570
- Cohen, R., & Blaszczyński, A. (2015). Comparative effects of Facebook and conventional media on body image dissatisfaction. *Journal of Eating Disorders*, 3, 23. doi: 10.1186/s40337-015-0061-3
- Dakanalis, A., & Riva, G. (2013). Mass media, body image and eating disturbances. The underlying mechanism through the lens of the objectification theory. In L. B. Sams & J.

- A. Keels (Eds.), *Body image. Gender differences, sociocultural influences and health implications* (pp. 217–236). New York: Nova Science Publishers.
- de Vries, D. A., Peter, J., Nikken, P., & de Graaf, H. (2014). The effect of social network site use on appearance investment and desire for cosmetic surgery among adolescent boys and girls. *Sex Roles*, 71, 283–295. doi: 10.1007/s11199-014-0412-6
- de Vries, D. A., Peter, J., de Graaf H., & Nikken, P. (2016). Adolescents' social network site use, peer appearance-related feedback, and body dissatisfaction: Testing a mediation model. *Journal of Youth and Adolescence*, 45, 211–224. doi:10.1007/s10964-015-0266-4
- Döring, N., Reif, A., & Poeschl, S. (2016). How gender-stereotypical are selfies? A content analysis and comparison with magazine adverts. *Computers in Human Behavior*, 55, 955–962. doi: 10.1016/j.chb.2015.10.001
- Eckler, P., Kalyango, Y., & Paasch, E. (2016). Facebook use and negative body image among U.S. college women. *Women & Health*, 1–19. doi: 10.1080/03630242.2016.1159268
- Ellison, N. B., & Vitak, J. (2015). Social network site affordances and their relationship to social capital processes. In S. Sundar (Ed.) *The Handbook of the Psychology of Communication Technology* (pp. 205–227). Hoboken, NJ: Wiley-Blackwell.
- Engeln-Maddox, R. (2006). Buying a beauty standard or dreaming of a new life? Expectations associated with media models. *Psychology of Women Quarterly*, 30, 258–266. doi: 10.1111/j.1471-6402.2006.00294.x
- Ferguson, C. J., Muñoz, M. E., Garza, A., & Galindo, M. (2014). Concurrent and prospective analyses of peer, television and social media influences on body dissatisfaction, eating disorder symptoms and life satisfaction in adolescent girls. *Journal of Youth and Adolescence*, 43, 1–14. doi: 10.1007/s10964-012-9898-9
- Field, A. E., Camargo, C. A., Taylor, C. B., Berkey, C. S., Roberts, S. B., & Colditz, G. a. (2001). Peer, parent, and media influences on the development of weight concerns and

- frequent dieting among preadolescent and adolescent girls and boys. *Pediatrics*, 107, 54–60. doi: 10.1542/peds.107.1.54
- Flynn, M. A. (2016). The effects of profile pictures and friends' comments on social network site users' body image and adherence to the norm. *Cyberpsychology, Behavior, and Social Networking*, 19, 239–245. doi: 10.1089/cyber.2015.0458
- Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks, *Psychology of Women Quarterly*, 21, 173–206.
- Frison, E., & Eggermont, S. (2015). Exploring the relationships between different types of Facebook use, perceived online social support, and adolescents' depressed mood. *Social Science Computer Review*, 45, 1–19. doi: 10.1177/0894439314567449
- Frison, E., Kaveri, S., & Steven, E. (2016). The short-term longitudinal and reciprocal relationships between peer victimization on Facebook and adolescents' well-being. *Journal of Youth and Adolescence*, 45, 1755–1771. doi: /10.1007/s10964-016-0436-z
- Ganahl, D. J., Prinsen, T. J., & Netzley, S. B. (2003). A content analysis of prime time commercials: A contextual framework of gender representation. *Sex Roles*, 49, 545–551. doi: 10.1023/A:1025893025658
- Giaccardi, S., Ward, L. M., Seabrook, R. C., Manago, A., & Lippman, J. (2016). Media and modern manhood: Testing associations between media consumption and young men's acceptance of traditional gender ideologies. *Sex Roles*, 75, 1–13. doi: 10.1007/s11199-016-0588-z
- Grabe, S., & Hyde, J. S. (2009). Body objectification, MTV, and psychological outcomes among female adolescents. *Journal of Applied Social Psychology*, 39, 2840–2858. doi: 10.1111/j.1559-1816.2009.00552.x
- Graff, K., Murnen, S. K., & Smolak, L. (2012). Too sexualized to be taken seriously ?

- Perceptions of a girl in childlike vs. sexualizing clothing. *Sex Roles*, 66, 764–775. doi: 10.1007/s11199-012-0145-3
- Grieve, R., & Helmick, A. (2008). The influence of men's self-objectification on the drive for muscularity: Self-esteem, body satisfaction and muscle dysmorphia. *International Journal of Men's Health*, 7, 288–298. doi: 10.3149/jmh.0703.288
- Haferkamp, N., Eimler, S. C., Papadakis, A.-M., & Kruck, J. V. (2012). Men are from Mars, women are from Venus? Examining gender differences in self-presentation on social networking sites. *Cyberpsychology, Behavior, and Social Networking*, 15, 91–98. doi: 10.1089/cyber.2011.0151
- Ho, S. S., Lee, E. W. J., & Liao, Y. (2016). Social network sites, friends, and celebrities: The roles of social comparison and celebrity involvement in adolescents body image dissatisfaction. *Social Media & Society*, 2, 1-11. doi: 10.1177/2056305116664216
- Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image*, 17, 100–110. doi: /10.1016/j.bodyim.2016.02.008
- Holmstrom, A. J. (2004). The effects of the media on body image: A meta-analysis. *Journal of Broadcasting & Electronic Media*, 48, 196–217. doi: 10.1207/s15506878jobem4802_3
- Hummel, A. C., & Smith, A. R. (2015). Ask and you shall receive: Desire and receipt of feedback via Facebook predicts disordered eating concerns. *International Journal of Eating Disorders*, 48, 436–442. doi: 10.1002/eat.22336
- Hutchinson, D. M., & Rapee, R. M. (2007). Do friends share similar body image and eating problems? The role of social networks and peer influences in early adolescence. *Behaviour Research and Therapy*, 45, 1557-1577. doi: 10.1016/j.brat.2006.11.007
- Jackson, T., & Chen, H. (2015). Predictors of cosmetic surgery consideration among

- young Chinese women and men. *Sex Roles*, 73, 214–230. doi:10.1007/s11199-015-0514-9
- Jones, D. C., Vigfusdottir, T. H., & Lee, Y. (2004). Body image and the appearance culture among adolescent girls and boys: An examination of friend conversations, peer criticism, appearance magazines, and the internalization of appearance ideals. *Journal of Adolescent Research*, 19, 323–339. doi: 10.1177/0743558403258847
- Jung, J., & Lennon, S. J. (2003). Body image, appearance self-schema, and media images. *Family and Consumer Sciences*, 32, 27-51. doi: 10.1177/1077727X03255900
- Kapidzic, S., & Herring, S. C. (2014). Race, gender, and self-presentation in teen profile photographs. *New Media & Society*, 17, 958-976 doi: 10.1177/1461444813520301
- Kirsch, A. C., & Murnen, S. K. (2015). “Hot” girls and “cool dudes”: Examining the prevalence of the heterosexual script in American children’s television media. *Psychology of Popular Media Culture*, 4, 18–30. doi: 10.1037/ppm0000017
- Klein, H., & Shiffman, K. S. (2006). Messages about physical attractiveness in animated cartoons. *Body Image*, 3, 353–363. doi: 10.1016/j.bodyim.2006.08.001
- Koutamanis, M., Vossen, H. G. M., & Valkenburg, P. M. (2015). Adolescents’ comments in social media: Why do adolescents receive negative feedback and who is most at risk? *Computers in Human Behavior*, 53, 486–494. doi: 10.1016/j.chb.2015.07.016
- Kroon Van Diest, A. M., & Perez, M. (2013). Exploring the integration of thin-ideal internalization and self-objectification in the prevention of eating disorders. *Body Image*, 10, 16–25. doi: 10.1016/j.bodyim.2012.10.004
- Lawler, M., & Nixon, E. (2011). Body dissatisfaction among adolescent boys and girls: The effects of body mass, peer appearance culture and internalization of appearance ideals. *Journal of Youth and Adolescence*, 40, 59–71. doi: 10.1007/s10964-009-9500-2
- Lee, J., & Johnson, K. K. P. (2009). Factors related to engagement in risky appearance

- management behaviors. *Clothing and Textiles Research Journal*, 27, 163–178. doi: 10.1177/0887302X08327200
- Leit, R. A., Pope, H. G., & Gray, J. J. (2002). The media's representation of the ideal male body: A cause for muscle dysmorphia? *International Journal of Eating Disorders*, 31, 334–338. doi: 10.1002/eat.10019
- Liss, M., Erchull, M. J., & Ramsey, L. R. (2011). Empowering or oppressing? Development and exploration of the Enjoyment of Sexualization Scale. *Personality and Social Psychology Bulletin*, 37, 55–68. doi: 10.1177/0146167210386119
- Madden, M. (2013). *Teens haven't abandoned Facebook (yet)*. Washington, DC: Pew Research Center's Internet & American Life Project.
- Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology*, 29, 446–458. doi: 10.1016/j.appdev.2008.07.001
- Manago, A. M., Ward, L. M., Lemm, K. M., Reed, L., & Seabrook, R. (2015). Facebook involvement, objectified body consciousness, body shame, and sexual assertiveness in college women and men. *Sex Roles*, 72, 1–14. doi: 10.1007/s11199-014-0441-1
- Markula, P. (2011). Firm but shapely, fit but sexy, strong but thin: The postmodern aerobicizing female bodies. In A. Yiannakis & M. J. Melnick (Eds.), *Contemporary issues in sociology of sport* (237-258). Champaign: Human Kinetics.
- McCabe, M. P., & Ricciardelli, L. A. (2001). Parent, peer, and media influences on body image and strategies to both increase and decrease body size among adolescent boys and girls. *Adolescence*, 36, 224–240.
- McKenney, S. J., & Bigler, R. S. (2014). High heels, low grades: internalized sexualization and academic orientation among adolescent girls. *Journal of Research on Adolescence*,

26, 30–36. doi: 10.1111/jora.12179

McKenney, S. J., & Bigler, R. S. (2016). Internalized sexualization and its relation to sexualized appearance, body surveillance, and body shame among early adolescent girls.

Journal of Early Adolescence, 36, 171–197. doi: 10.1177/0272431614556889

Meier, E. P., & Gray, J. (2014). Facebook photo activity associated with body image disturbance in adolescent girls. *Cyberpsychology, Behavior and Social Networking*, 17, 199–206. doi: 10.1089/cyber.2013.0305

Moradi, B., & Huang, Y. (2008). Objectification theory and psychology of women: A decade of advances and future directions. *Psychology of Women Quarterly*, 32, 377–398.

doi:10.1111/j.1471-6402.2008.00452.x

Nevitt, J., & Hancock, G. R. (2001). Performance of bootstrapping approaches to model test statistics and parameter standard error estimation in structural equation modeling.

Structural equation modeling: A multidisciplinary Journal, 8, 353–377. doi:

10.1207/S15328007SEM0803_2

Nowatzki, J., & Morry, M. M. (2009). Women's intentions regarding, and acceptance of, self-sexualizing behavior. *Psychology of Women Quarterly*, 33, 95–107. doi:

10.1111/j.1471-6402.2008.01477.x

Papacharissi, Z. (2011). *A networked self: Identity, community and culture on social network sites*. New York, NY: Routledge.

Paxton, S. J., Schutz, H. K., Wertheim, E. H., & Muir, S. L. (1999). Friendship clique and peer influences on body image concerns, dietary restraint, extreme weight-loss

behaviors, and binge eating in adolescent girls. *Journal of Abnormal Psychology*, 108, 255–266. doi: 10.1037/0021-843X.108.2.255

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*,

30, 227–238. doi: 10.1016/j.appdev.2008.12.010

Perloff, R. M. (2014). Social media effects on young women's body image concerns:

Theoretical perspectives and an agenda for research. *Sex Roles*, 71, 363–377. doi:

10.1007/s11199-014-0384-6

Phares, V., Steinberg, A. R., & Thompson, J. K. (2004). Gender differences in peer and

parental influences: Body image disturbance, self-worth, and psychological

functioning in preadolescent children. *Journal of Youth and Adolescence*, 33, 421–429.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method

biases in behavioral research: A critical review of the literature and recommended

remedies. *Journal of Applied Psychology*, 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Ringrose, J. (2011). Are you sexy, flirty or a slut? Exploring “sexualization” and how teen

girls perform/negotiate digital sexual identity on social networking sites. In R. Gill & C.

Scharff (Eds.), *New femininities: Postfeminism, neoliberalism and subjectivity* (pp. 99–

116). London: Palgrave.

Rodgers, R. F., & Melioli, T. (2015). The relationship between body image concerns, eating

disorders and Internet use, Part I: A review of empirical support. *Adolescent Research*

Review, 1, 95–119. doi: 10.1007/s40894-015-0016-6

Rose, J., Mackey-Kallis, S., Shyles, L., Barry, K., Biagini, D., Hart, C., & Jack, L. (2012).

Face it: The impact of gender on social media images. *Communication Quarterly*, 60,

588–607. doi: 10.1080/01463373.2012.725005

Ruckel, L., & Hill, M. (2016). Look @ me 2.0: Self-sexualization in Facebook photographs,

body surveillance and body image. *Sexuality & Culture*, advanced online publication, 1–

21. doi: 10.1007/s12119-016-9376-8

Sampasa-Kanyinga, H., Chaput, J.-P., & Hamilton, H. A. (2016). Use of social networking

sites and perception and intentions regarding body weight among adolescents. *Obesity*

Science & Practice, 2, 1–8. doi: 10.1002/osp4.26

Shroff, H., & Thompson, J. K. (2006). Peer influences, body-image dissatisfaction, eating dysfunction and self-esteem in adolescent girls. *Journal of Health Psychology*, 11, 533–551. doi: 10.1177/1359105306065015

Siibak, A. (2010). Constructing masculinity on a social networking site. *Young*, 18, 403–425. doi: 10.1177/110330881001800403

Slater, A., & Tiggemann, M. (2015). Media exposure, extracurricular activities, and appearance-related comments as predictors of female adolescents' self-objectification. *Psychology of Women Quarterly*, 39, 375–389. doi: 10.1177/0361684314554606

Smith, A. R., Hames, J. L., & Joiner, T. E. (2013). Status update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *Journal of Affective Disorders*, 149, 235–240. doi: 10.1016/j.jad.2013.01.032

Smolak, L., Murnen, S. K., & Myers, T. a. (2014). Sexualizing the self: What college women and men think about and do to be “sexy.” *Psychology of Women Quarterly*, 38, 379–397. doi: 10.1177/0361684314524168

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology*, 52, 83–110. doi: 10.1146/annurev.psych.52.1.83

Stronge, S., Greaves, L. M., Milojev, P., West-Newman, T., Barlow, F. K., & Sibley, C. G. (2015). Facebook is linked to body dissatisfaction: Comparing users and non-users. *Sex Roles*, 73, 200–213. doi: 10.1007/s11199-015-0517-6

Subrahmanyam, K., & Greenfield, P. (2016). Online communication and adolescent relationships. *The Future of Children*, 18, 199–146. doi: 10.1353/foc.0.0006

Thompson, J. K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current*

Directions in Psychological Science, 10, 181–183. doi: 10.1111/1467-8721.00144

Thompson, J. K., Van Den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004).

The Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders*, 35, 293–304. doi:

10.1002/eat.10257

Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). Exacting beauty:

Theory, assessment and treatment of body image disturbance. Washington, DC:

American Psychological Association.

Tiggemann, M., Martins, Y., & Churchett, L. (2008). Beyond muscles: unexplored parts of

men's body image. *Journal of Health Psychology*, 13, 1163–1172. doi:

10.1177/1359105308095971

Tiggemann, M., & Slater, A. (2014). The role of self-objectification in the mental health of

early adolescent girls: Predictors and consequences. *Journal of Pediatric Psychology*,

40, 704–711. doi: 10.1093/jpepsy/jsv021

Trekels, J., & Eggermont, S. (in press). “I can/should look like a media figure”: The

association between direct and indirect media exposure and teens' sexualizing

appearance behaviors. *Journal of Sex Research*, 1-14. doi:

10.1080/00224499.2017.1387754

Vandenbosch, L., & Eggermont, S. (2012). Understanding sexual objectification:

A comprehensive approach toward media exposure and girls' internalization of beauty

ideals, self-objectification, and body surveillance. *Journal of Communication*, 62, 869–

887. doi: 10.1111/j.1460-2466.2012.01667.x

Vandenbosch, L., & Eggermont, S. (2015). Sexualization of adolescent boys: Media

exposure and boys' internalization of appearance ideals, self-objectification, and body

surveillance. *Men & Masculinities*, 16, 283–306. doi:10.1177/1097184X13477866

- Visser, B. A., Sultani, F., Choma, B. L., & Pozzebon, J. A. (2014). Enjoyment of sexualization: Is it different for men? *Journal of Applied Social Psychology, 44*, 495-504. doi: 10.1111/jasp.12241
- Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture, 3*, 206–222.
- Ward, L. M., Seabrook, R. C., Manago, A., & Reed, L. (2015). Contributions of diverse media to self-sexualization among undergraduate women and men. *Sex Roles, 74*, 12-23. <http://doi.org/10.1007/s11199-015-0548-z>
- Walther, J. B., Carr, C. T., Choi, S. S. W., DeAndrea, D. C., Kim, J., Tong, S. T., & Van Der Heide, B. (2010). Interaction of interpersonal, peer, and media influence sources online: A research agenda for technology convergence. In Z. Papacharissi (Ed.), *A networked self: Identity, community and culture on social network sites* (pp. 17–38). New York: Routledge.
- Webb, H. J., Zimmer-Gembeck, M. J., & Donovan, C. L. (2014). The appearance culture between friends and adolescent appearance-based rejection sensitivity. *Journal of Adolescence, 37*, 347–358. doi: 10.1016/j.adolescence.2014.02.008
- Zurbriggen, E., & Roberts, T. (2013). *The sexualization of girls and girlhood: Causes, consequences, and resistance*. Oxford University Press: New York.

FACEBOOK AND SELF-SEXUALIZATION

Table 1

Descriptive statistics and zero-order correlations

	1	2	3	4	5
1 Total amount of FB use		.27**	.12**	.27**	.21**
2 Appearance conversations on Facebook			.36**	.34**	.41**
3 Internalization of rewarded beauty ideals				.35**	.29**
4 Self-objectification					.40**
5 Self-sexualizing behaviors					
Range	1-10	1-5	1-5	-9 - 9	1-5
<i>M(SD)</i> for entire sample	4.58(2.29)	1.50(0.66)	2.29(0.84)	-1.88(1.57)	2.30(0.59)
<i>M(SD)</i> for boys	4.24(2.28)	1.33(0.55)	2.14(0.81)	-2.21(1.44)	2.20(0.62)
<i>M(SD)</i> for girls	4.92(2.26)	1.67(0.71)	2.43(0.84)	-1.58(1.63)	2.39(0.54)

Note. * $p < .05$, ** $p < .01$

Figure 1: Hypothesized relations between Facebook use, appearance conversations on Facebook, internalization of rewarded beauty, self-objectification, and self-sexualization.

Figure 2: Structural equation model for the relations between Facebook use, appearance conversations on Facebook, internalization of rewarded beauty, self-objectification, and self-sexualization (N = 640).

Note. — Significant path (* $p < .05$, ** $p < .01$, *** $p < .001$); - - - Insignificant path. For clarity, error terms, covariances, and measurements are not shown. Values reflect standardized coefficients.